Exhibit
A-7

		Application No.	Applicant(s)	
Notice of Allowability		11/026,394	WANG ET AL.	
		Examiner	**Art Unit**	
		Shawn S. An	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *3/6/07*.

2. ☒ The allowed claim(s) is/are *1-31*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

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EXAMINER'S AMENDMENT

1.   An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

IN THE CLAIMS:

A)   Please amend claims 1, 3, 5-6, 10, 14-18, 20-22, 24-26, and 28-30 as follows:

1.   (Currently Amended) A method of encoding a picture in an image sequence, comprising:

dividing said picture into a plurality of macroblocks, each macroblock containing a plurality of blocks;

generating a plurality of processing blocks, each processing block being generated by grouping said plurality of macroblocks as a processing block, said plurality of macroblocks including a pair of macroblocks or a group of macroblocks; and

selectively encoding at least one of said processing blocks <u>at a time</u> in frame coding mode and at least one of said processing blocks <u>at a time</u> in field coding mode,

wherein said encoding is performed in a horizontal scanning path or a vertical scanning path.

3.   (Currently Amended) An apparatus for encoding a picture in an image sequence, comprising:

means for dividing said picture into a plurality of macroblocks, each macroblock containing a plurality of blocks; and

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means for generating a plurality of processing blocks, each processing block being generated by grouping said plurality of macroblocks as a processing block, said plurality of macroblocks including a pair of macroblocks or a group of macroblocks;

means for selectively encoding at least one of said processing blocks at a time in frame coding mode and at least one of said processing blocks at a time in field coding mode,

wherein said encoding is performed in a horizontal scanning path or a vertical scanning path.

5.   (Currently Amended) A computer-readable medium encoded with computer executable instructions having stored thereon a plurality of instructions, the plurality of computer executable instructions including instructions which, when executed by a processor, cause the processor to perform the steps of a method for encoding a picture in an image sequence, comprising the steps of:

dividing said picture into a plurality of macroblocks, each macroblock containing a plurality of blocks;

generating a plurality of processing blocks, each processing block being generated by grouping said plurality of macroblocks as a processing block, said plurality of macroblocks including a pair of macroblocks or a group of macroblocks; and

selectively encoding at least one of said processing blocks at a time in frame coding mode and at least one of said processing blocks at a time in field coding mode,

wherein said encoding is performed in a horizontal scanning path or a vertical scanning path.

6.   (Currently Amended) A method of decoding an encoded picture having a plurality of processing blocks, each processing block containing macroblocks, each macroblock containing a plurality of blocks, from a bitstream, comprising:

decoding at least one of said a plurality of processing blocks at a time, wherein each of said plurality of processing blocks includes a pair of macroblocks or a group of macroblocks, in frame coding mode and at least one of said plurality of processing

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blocks <u>at a time</u> in field coding mode, wherein said decoding is applied to a pair of
blocks, or a group of blocks,

wherein said decoding is performed in a horizontal scanning path or a vertical
scanning path; and

using said plurality of decoded processing blocks to construct a decoded picture.

10.   (Currently Amended) An apparatus for decoding an encoded picture from a
bitstream, comprising:

means for decoding at least one of ~~said~~ <u>a</u> plurality of processing blocks <u>at a time</u>,
each processing block containing <u>a pair of macroblocks or a group of</u> macroblocks,
each macroblock containing a plurality of blocks, from said encoded picture that is
encoded in frame coding mode and at least one of said plurality of processing blocks <u>at
a time</u> that is encoded in field coding mode,

wherein said decoding is performed in a horizontal scanning path or a vertical
scanning path; and

means for using said plurality of decoded processing blocks to construct a
decoded picture.

14.   (Currently Amended) A computer-readable medium <u>encoded with computer
executable instructions</u> ~~having stored thereon a plurality of instructions~~, the ~~plurality of
computer executable~~ instructions including instructions which, when executed by a
processor, cause the processor to perform the steps of a method for encoding a picture
in an image sequence, comprising <u>the steps</u> of:

decoding at least one of a plurality of processing blocks <u>at a time</u>, each
processing block containing <u>a pair of macroblocks or a group of</u> macroblocks, each
macroblock containing a plurality of blocks, from said encoded picture that is encoded in
frame coding mode and at least one of said plurality of processing blocks <u>at a time</u> that
is encoded in field coding mode,

wherein said decoding is performed in a horizontal scanning path or a vertical
scanning path; and

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using said plurality of decoded processing blocks to construct a decoded picture.

15.   (Currently Amended) A bitstream comprising:

a picture that has been divided into a plurality of processing blocks, each processing block containing a pair of macroblocks or a group of macroblocks, each macroblock containing a plurality of blocks,

wherein at least one of said plurality of processing blocks from said picture is encoded in frame coding mode at a time and at least one of said plurality of processing blocks is encoded in field coding mode at a time,

wherein said encoding is performed in a horizontal scanning path or a vertical scanning path.

16.   (Currently Amended) The method of claim 2 1, wherein each pair of macroblocks blocks of said image is encoded coded from left to right and from top to bottom if said encoding is performed in said horizontal scanning path, and

wherein each pair of macroblocks blocks of said image is encoded coded from top to bottom and from left to right if said encoding is performed in said vertical scanning path.

17.   (Currently Amended) The method of claim 2 1, wherein said pair of macroblocks comprises a top block and a bottom block, where said top block is encoded prior to said bottom block in said frame coding mode.

18.   (Currently Amended) The method of claim 2 1, further comprising:

splitting said pair of macroblocks into a top field block and a bottom field block when said pair of macroblocks blocks are encoded in said field coding mode, and where said top field block is encoded prior to said bottom field block.

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20.   (Currently Amended) The apparatus of claim 4 ~~3~~, wherein each pair of
<u>macroblocks</u> ~~blocks~~ of said image is <u>encoded</u> ~~coded~~ from left to right and from top to
bottom if said encoding is performed in said horizontal scanning path, and
        wherein each pair of <u>macroblocks</u> ~~blocks~~ of said image is <u>encoded</u> ~~coded~~ from
top to bottom and from left to right if said encoding is performed in said vertical scanning
path.

21.   (Currently Amended) The apparatus of claim 4 ~~3~~, wherein said pair of
macroblocks comprises a top block and a bottom block, where said top block is
encoded prior to said bottom block in said frame coding mode.

22.   (Currently Amended) The appartus of claim 4 ~~3~~, wherein said pair of macroblocks
are split into a top field block and a bottom field block when said pair of <u>macroblocks</u>
~~blocks~~ are encoded in said field coding mode, and where said top field block is
encoded prior to said bottom field block.

24.   (Currently Amended) The method of claim 7 ~~6~~, wherein each pair of <u>macroblocks</u>
~~blocks~~ of said image is <u>decoded</u> ~~coded~~ from left to right and from top to bottom if said
<u>decoding</u> ~~encoding~~ is performed in said horizontal scanning path, and
        wherein each pair of <u>macroblocks</u> ~~blocks~~ of said image is <u>decoded</u> ~~coded~~ from
top to bottom and from left to right if said <u>decoding</u> ~~encoding~~ is performed in said
vertical scanning path.

25.   (Currently Amended) The method of claim 7 ~~6~~, wherein said pair of macroblocks
comprises a top block and a bottom block, where said top block is <u>decoded</u> ~~encoded~~
prior to said bottom block in said frame coding mode.

26.   (Currently Amended) The method of claim 7 ~~6~~, <u>wherein said pair of macroblocks</u>
<u>is represented by a top field block and a bottom field block in said field coding mode, the</u>
<u>method</u> further comprising:

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> decoding said top field block and said bottom field block, and
>
> joining said top field block and said bottom field block into said pair of
>
> macroblocks
>
> ~~splitting said pair of macroblocks into a top field block and a bottom field block~~
>
> ~~when said pair of blocks are encoded in said field coding mode, and where said top field~~
>
> ~~block is encoded prior to said bottom field block.~~

28.   (Currently Amended) The apparatus of claim 11 ~~10~~, wherein each pair of
macroblocks ~~blocks~~ of said image is decoded ~~coded~~ from left to right and from top to
bottom if said decoding ~~encoding~~ is performed in said horizontal scanning path, and

> wherein each pair of macroblocks ~~blocks~~ of said image is decoded ~~coded~~ from
top to bottom and from left to right if said decoding ~~encoding~~ is performed in said
vertical scanning path.

29.   (Currently Amended) The apparatus of claim 11 ~~10~~, wherein said pair of
macroblocks comprises a top block and a bottom block, where said top block is
decoded ~~encoded~~ prior to said bottom block in said frame coding mode.

30.   (Currently Amended) The apparatus of claim 11 ~~10~~, wherein said pair of
macroblocks is represented by a top field block and a bottom field block in said field
coding mode, the method further comprising:

> decoding said top field block and said bottom field block, and
>
> joining said top field block and said bottom field block into said pair of
>
> macroblocks
>
> ~~wherein said pair of macroblocks are split into a top field block and a bottom field~~
>
> ~~block when said pair of blocks are encoded in said field coding mode, and where said~~
>
> ~~top field block is encoded prior to said bottom field block.~~

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REMARKS:

Claims 1, 3, 5-6, 10, 14-18, 20-22, 24-26, and 28-30 have been amended as

discussed above, as authorized by Applicant's attorney, Larry T. Cullen (44,489) on

May 24, 2007.

2.   Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to *Shawn S. An* whose telephone number is 571-272-7324.

SHAWN AN
PRIMARY EXAMINER

5/24/07

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Reasons for Allowance

1.   As per Applicant's instructions as filed on 3/06/07, claims 1-15 have been amended, and claims 16-31 have been newly added.

2.   Claims 1-31 are allowed.

3.   Claims 1-31 are allowed after entering the Examiner's Amendment as discussed in the EXAMINER'S AMENDMENT section.

4.   Claims 1-31 as amended are allowed as having incorporated novel features of an encoder/decoder comprising:

means/steps for dividing said picture into a plurality of macroblocks, each macroblock containing a plurality of blocks; and

means/steps for generating a plurality of processing blocks, each processing block being generated by grouping said plurality of macroblocks as a processing block, the plurality of macroblocks including a pair of macroblocks or a group of macroblocks;

means/steps for selectively encoding at least one of said processing blocks *at a time in frame coding mode* and at least one of said processing blocks *at a time* in field coding mode,

wherein the encoding is performed in a horizontal scanning path or a vertical scanning path.

The prior art of record fails to anticipate or make obvious the novel features (emphasis added on *underlined claim(s) limitations*) as above.

Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."
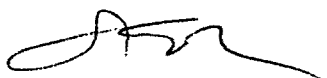
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Conclusion

5.   Any inquiry concerning this communication or earlier communications from the
Examiner should be directed to *Shawn S. An* whose telephone number is 571-272-7324.

6.   The fax phone number for the organization where this application or proceeding
is assigned is 571-273-8300.

7.   Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see http://pair-direct.uspto.gov. Should
you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free).

SHAWN AN
PRIMARY EXAMINER

5/24/07